

Enclosure 5
NPL Facilities
Perchlorate Sampling

Facility Name	Status	Has Facility Used Equipment, Munitions, or Weaponry Believed to Contain Perchlorate?	Type of Equipment, Munitions, Weaponry Used	Has Sampling for Perchlorate Occurred?	Results of Any Sampling, Including Detection Level	Comments	Known Human Exposure?
Aberdeen Proving Ground	DERA	Yes		Yes	0-23 ppb	23 ppb at the western boundary well, 1 ppb at the City of Aberdeen well. Groundwater 3.4 to 10.9 ppb, soil 15 ppb, product well water 0.4 to 5 ppb.	Exposure Pathway: Army is monitoring and assisting City of Aberdeen to ensure finished drinking water remains below 1 ppb. Perchlorate has been found in drinking supply wells (Non-detect-5ppb) for the City of Aberdeen. Perchlorate has been detected in the aquifer that supplies water to the City of Aberdeen.
Air Force Plant 14	FUDS	Not Reported					
Air Force Plant 4	DERA	Yes	Ejection seats, flares, ^{chaff}	Yes	Not Detected		
Air Force Plant 44	DERA	Yes	Rockets, propellants	Yes	Not Detected		
Air Force Plant 70	DERA	Yes	Rockets, propellants	No	Not Applicable		
Air Force Plant PKS	DERA	Yes	Rockets	Yes	Not Detected		
Albany MCLB	DERA	Not reported					
Allegheny Ballistics Lab	DERA	Yes		Yes	100-400 ppb	Discharge into surface water is between 100-400 ppb.	No exposure pathway. Groundwater is not used for drinking water.
Andersen Air Force Base	DERA	Yes	Grenades	No	Not Applicable		
Andrews Air Force Base	DERA	No	Not Applicable	Yes	Not Detected		
Amisbon Army Depot	DERA	Not reported					
ARDEC (Picatinny Arsenal)	DERA	Yes		Yes	19.6 ppb 605 ppb Not Detected	19.6 ppb at Open Detonation Area, 605 ppb in isolated plume (site 142). Non-detect on southern boundary (Areas K & L).	No exposure pathway. One Groundwater detection of 19.6 ppb in Open Detonation area and a 605 ppb detection in what is thought to be an isolated, non-source aquifer. 605 ppb was the highest concentration detected. Perchlorate also sampled at southern boundary and none found.
Arkansas Ordnance Plant	FUDS	Not reported					
Atlantic City Airport	DERA	Not reported					
AVCO Lycoming SF Site	FUDS	Not reported					
Bangor NSB	DERA	Yes		No	Not Applicable		
Bastow MCLB	DERA	Not reported					
Bedford NWIRP	DERA	No	Not Applicable				
Blaine Naval Ammunition Depot	FUDS	Not reported					
Brunswick NAS	DERA	Yes		Yes	Awaiting Results		

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Camp Lejeune MCB	DERA	Yes	pyro, rockets, general purpose ordnance, anti-tank weapons, artillery, mortars, etc.	No	Not Applicable		
Camp Pendleton MCB	DERA	Yes	Waiting for report identifying specific equipment, munitions, or weaponry known to contain perchlorate.	Yes	Not Detected		
Cherry Point MCAS	DERA	No	The Air Station utilizes pyrotechnics, munitions, and rockets/missiles. Munitions assembly is not conducted aboard the Air Station other than the final assembly efforts required to ready munitions for use (i.e. attaching fins to missiles)	No	Not Applicable		
Collis Neck NWS Earle	DERA	Yes		No	Not Applicable		
Concord NWS	DERA	No	Not Applicable	No	Not Applicable		
Cornhusker AAP	DERA	Not reported					
Dahlgren NSWC	DERA	Yes		No	Not Applicable		
DD San Joaquin, Sharpe Facility	DERA	Not reported					
DD San Joaquin, Tracy Facility	DERA	Not reported					
Dover Air Force Base	DERA	No	Not Applicable	No	Not Applicable		
DSC RICHMOND	DERA	Not reported					
Eau Claire OP #1	FUDS	Not reported					
Edwards Air Force Base	DERA	Yes	Rocket propellant testing	Yes	36,000 ppb	36,000 ppb highest concentration detected. An innovative ion exchange perchlorate treatment technology is currently being demonstrated at Edwards AFB.	No exposure pathway. Groundwater is not used for drinking water.
Eielson Air Force Base	DERA	Yes	Demolition & Burn Facility	No	Not Applicable		
Elsworth Air Force Base	DERA	Yes	Explosive Ordnance Disposal Range (munitions)	Yes	Not Detected		
Ellendorf Air Force Base	DERA	Yes	Explosive ordnance disposal Range (munitions), Grenades	No	Not Applicable		
Fairchild Air Force Base	DERA	No	Not Applicable	No	Not Applicable		

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FIK/ARTTEL Chemical	FUDS						
Fort Dix	DERA	No					
Fort Eustis	DERA	Yes		No	Not Applicable		
Fort Lewis	DERA	Yes					
Fort Richardson	DERA	No	Not Applicable	No	Not Applicable		
Fort Riley	DERA	No	Not Applicable	No	Not Applicable		
Fort Wainwright	DERA	No	Not Applicable	No	Not Applicable		
Francis E Warren Air Force Base	DERA	Yes	Mortars, cannons	No	Not Applicable		
Findley NIROP	DERA						
Fort Crowder	FUDS	No	Not Applicable	No	Not Applicable		
Hanscom Air Force Base	DERA	Yes	Pyrotechnics, smoke grenades	No	Not Applicable		
Hill Air Force Base	DERA	Yes	Rocket motor testing	Yes	70 ppb	70 ppb highest concentration detected	No exposure pathway. Groundwater is not used for drinking water.
IL Ordnance PLT (Crab Orchard)	FUDS	Not reported					
Indian Head NSWC	DERA	Yes		Yes	190 ppb	Groundwater concentrations near the hqout facility average approx. 170 ppb. The effectiveness of an innovative in situ perchlorate treatment technology is being demonstrated at Indian Head	No exposure pathway. Groundwater is not used for drinking water.
Lowry Army Ammunition Plant	DERA	Information Not Available		Yes (By EPA)	9 ppb		No known exposure pathways.
Jacksonville NAS	DERA	Yes		No	Not Applicable		
Jet Propulsion Lab	FUDS	Yes		Yes			
Joliet AAP - Kankakee	DERA	Information Not available					
Keyport NIJWC	DERA	Yes		No	Not Applicable		
Kingsbury Ordnance Plant	FUDS	Not reported					
Lake City AAP	DERA	Yes		Yes	73 ppb	Monitoring well - 73 ppb, soil 15 ppb	No exposure pathway. 2 of 30 wells sampled with results of 23 and 79 ppb. No drinking water sources are known to be threatened.
Lake Louise	DERA	Not reported					
Lakehurst NAWCAD	DERA	Not reported					
Langley Air Force Base	DERA	Yes	Explosive ordnance disposal Range (munitions)	Yes	Not detected		
Liaison Air Force Base	FUDS	Not reported					
Little Creek NAB	DERA	Yes	Pyrotechnics, cartridges, grenades, rocket motors, missiles, propellant, flares	No	Not Applicable		

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Lone Star AAP	DERA	Yes		Yes	8.8 ppb	Soil at production plant (8.8 ppb) and Groundwater at burning ground (8 ppb).	No exposure pathway. Low levels of perchlorate in soil and Groundwater, but no indication of a completed pathway of exposure.
Longhorn AAP	DERA	Yes		Yes	Groundwater < 4ppb to 247,000 ppb; Soil 25.5 ppb to 163,000 ppb	Perchlorate discovered in 1999. An innovative groundwater treatment technology for perchlorate has been operational since March 2001. Ecological studies and cleanup studies being conducted.	No exposure pathway. Perchlorate is not approaching drinking water sources. Installation has defined nature and extent of perchlorate contamination at various locations on Longhorn property. Nature and extent of perchlorate contamination in soil and groundwater has been identified. Monitoring of surface water continues on a quarterly basis per an agreement with regulatory agencies.
Louisiana AAP	DERA	Not reported					
Malta Test STA	FUDS	Not reported					
Manchester Annex	FUDS	Not reported					
Marathon Battery PLT	FUDS	Not reported					
Massachusetts Military Reservation (MMR)	DERA	Yes		Yes	300 ppb	Groundwater monitoring wells 17.7 ppb (May 2001) to 3.7 ppb (Jan 2003), offsite well detection at 1.75 ppb in May 2003. Investigations into the feasibility of using an innovative perchlorate treatment technology are being conducted.	Exposure Pathway: Alternative drinking water source provided to other towns was also provided to town Bourne. Perchlorate has been detected in wells that supply the town of Bourne (< 1 ppb) and in a private-residence Bourne well (1.75 ppb). Perchlorate has been found in a sole source aquifer located under MMR (up to 300 ppb).
McCord Air Force Base	DERA	No	Not Applicable	No	Not Applicable		
McGuire Air Force Base	DERA	No	Not Applicable	No	Not Applicable		
Mechanicsburg SPC	DERA	Not reported					
Middletown Air Depot	FUDS	Not reported					
Midland Army Ammunition Plant	DERA	Information Not Available					
Morganown Ordnance Works	FUDS	Not reported					
Mountain Home Air Force Base	DERA	Yes	Explosive ordnance range (munitions)	No	Not Applicable		
Nasrmond Ordnance Depot	FUDS	Not reported					
Naval Station TODD-Tacoma	FUDS	Not reported					

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Nebraska Ordnance Plant	FUDS	No	Not Applicable	Yes	2+ pb	Army reports EPA has been investigating this site because it was a fireworks manufacturing facility for approximately 20 years subsequent to DoD use. There has been no basis or historical record to suspect DoD perchlorate usage.	Exposure pathway suspected. DoD confirmation is pending.
New Hanover CNTY ARPT	FUDS	Not reported					
New London NSB	DERA	Yes					
Newport METC	DERA	Not reported					
Norfolk Naval Station	DERA	Yes	Pyrotechnics, cartridges, grenades, rocket motors, missiles, propellants, mines, torpedoes	No	Not Applicable	Storage only.	
Norfolk COMNAVBASE	DERA	Not reported					
Norfolk NSY	DERA	Not reported					
Panex Ordnance (DOE)	FUDS	Not reported					
Panex Ordnance Plant (TX Tech)	FUDS	Not reported					
Parris Island MCRD	DERA	Not reported	The overwhelming majority of munitions used aboard the Depot have been small arms. In addition, some mortar fire, some artillery, grenades, rockets and pyrotechnics. Artillery dates back to the early part of the century, rockets and mortars were also fired until the WWII timeframe, grenades were thrown/fired until the mid-1990s.	No	Not Applicable	Archive Search Report and Range Identification and Preliminary Range Assessment do not have any specific reference to perchlorate. The majority of rockets that have been fired on Parris Island (primarily during the 1930's) had solid or powder propellants. Not sure what types of munitions may have contained perchlorate as an ingredient.	
Pauvent River NAS	DERA	Yes		No	Not Applicable		
Pearl Harbor FISC	DERA	Not reported					
Pearl Harbor INACTSHIPDET	DERA	Not reported					
Pearl Harbor NS	DERA	Yes		No	Not Applicable		
Pearl Harbor NSB	DERA	No	Not Applicable				
Pearl Harbor NSY	DERA	No	Not Applicable	No	Not Applicable		
Pearl Harbor PWC	DERA	Not reported					
Pensacola NAS	DERA	Not reported					

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Port Hadlock NOC PAC DIV DET	DERA	Not reported					
Portsmouth NSY	DERA	No	Not Applicable	No	Not Applicable		
Puget Sound FISC Bremerton	DERA	No	Not Applicable				
Puget Sound NAVHOSF Bremerton	DERA	No	Not Applicable				
Puget Sound NSY	DERA	Not reported					
Quantico MCB	DERA	Not reported	pyro, rockets, general purpose ordnance, anti-tank weapons, artillery, mortars, etc.	No	Not Applicable		
Redstone Arsenal	DERA	Yes		Yes	37-19,000 ppb	2 plumes with elevated perchlorates; soil contamination	Possible exposure pathway. The installation is monitoring to ensure that drinking water remains unaffected. Drinking water sources, however, have not been impacted. Elevated levels of perchlorate have been detected in springs that empty into a creek that, in turn, empties into the river. This site is located one-mile upstream of the arsenal's drinking water make. Sampling results from the drinking water intake are non-detect.
Riverbank Army Ammunition Plant	DERA	Information Not Available					
Robins Air Force Base	DERA	Yes	Stored munitions	No	Not Applicable		
Roddy Mountain Arsenal	DERA	Not reported					
San BER ENGR Depot	FUDS	Not reported					
Sanguano Ordnance Plant	FUDS	Not reported					
Soldier Systems Center	DERA	Not reported					
St. Julien's Creek Annex	DERA	Yes	Pyrotechnics, cartridges, grenades, rocket motors, missiles, propellants, mines, torpedoes, fuzes, flares, ejection seats	No	Not Applicable		
Stratford Field	FUDS	Not reported					
Sunflower AAP	DERA	Not reported					
Tinker Air Force Base	DERA	Yes	Rocket motors, Cartridge actuated devices, propellant actuated devices	No	Not Applicable		
Tobyhanna AD	DERA	No	Not Applicable	No	Not Applicable		
TODD-Seattle Drydocks INC	FUDS	Not reported					
Travis Air Force Base	DERA	No	Not Applicable	Yes	Groundwater	Detected in groundwater at Site 12	No Exposure Pathway. Groundwater is not used as a drinking water source

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Tucson International Airport	DERA	Not reported					
Twin Cities AAP	DERA	Not reported					
Tyndall Air Force Base	DERA	No	Not Applicable	No	Not Applicable		
Wahawa NCTAMS EASTPAC	DERA	Not reported					
Washington Navy Yard	DERA	Not reported					
Weldon Springs Ordnance Works	FUDS	Not reported					
West Virginia Ordnance Works	FUDS	Not reported					
Whitby Island NAS	DERA	Not reported					
Whiting Field NAS	DERA	No	Not Applicable	No	Not Applicable		
Williamsburg HSC Cheatham Annex	DERA	No	Not Applicable	No	Not Applicable		
Willow Grove Air Force Reserve	DERA	Yes	Munitions	No	Not Applicable		
Willow Grove NAS	DERA	Not reported					
Wright Patterson Air Force Base	DERA	Yes	Rockets, munitions	Yes	ND		
Yorktown NWS	DERA	Yes	Pyrotechnics, cartridges, grenades, rocket motors, missiles, propellants, mines, torpedoes, fuzes, flares, ejection seats	No	Not Applicable		
Yorktown NWS Cheatham Annex	DERA	No	Not Applicable	No	Not Applicable		
Yuma MCAS	DERA	Yes	pyrotechnics, munitions, rockets and munitions assemblies	Yes	<4.56 ppb See Notes	Note 1: The Camp Billy Machen water treatment plant located on the Chocolate Mountain Bombing Range had a result of 4.21 ppb. This is a ground water system that is provided by Imperial County. Note 2: The Cannon Complex water treatment plant located on the Barry M. Goldwater Bombing Range had a result of <4.00 ppb. This is also ground water system. Note 3: The Main Station water treatment plant had a result of 4.56 ppb. This is a surface water system which receives raw water from the Colorado River. The test were conducted using the EPA method 314, with a detection level of 4.00 ppb.	Exposure pathway: The Camp Billy Machen water treatment plant located on the Chocolate Mountain Bombing Range had a result of 4.21 ppb. The Main Station water treatment plant had a result of 4.56 ppb. The water system receives raw water from the Colorado River.